

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) A structure used to raise persons by ~~means~~ use of air jets, comprising:

a flight position (3;5);

a jet generating device (1) associated with the flight position and generating a vertical air jet, the jet generating device comprising i) a suction-and-delivery conduit (4) having a suction inlet and a delivery outlet, the delivery outlet vertically arranged and ending in proximity of the flight position (3;5), and ii) a variable pitch propeller, the propeller driven by an electric motor machine powered from an electric energy supply source, the propeller located inside said suction-and-delivery conduit(4), the propeller drawing air into the suction inlet, generating a vertically upward directed air jet, and discharging the air jet from the delivery outlet;

a support structure (2) supporting the ~~that supports~~ one or more flight position and the jet generating device; positions (3; 5) and respective devices (1) for generating vertical air currents or jets, each of these devices (1) comprising:

~~—a suction and delivery conduit (4), a delivery outlet of the conduit (4) being vertically arranged and ending in proximity of the respective flight position (3;5),~~

~~—a machine (6) for producing mechanical work, which is located inside said conduit(4), and is used to suck air from a suction inlet, of said conduit(4), thereby generating a vertically upward directed air current which is discharged from the delivery outlet;~~

one of an elastic membrane and a net ~~or more elastic membranes or nets (3) being provided at each respective the flight position (3; 5) and in order to support the weight of a person also in the event of its free fall from a maximum predetermined height, and said elastic membrane or net (3),~~ arranged above a ~~respective the~~ delivery outlet ~~of a conduit(4),~~ said one of the elastic membrane and the net being sufficiently permeable to ~~the~~ air to permit ~~the~~ passage of the air jet ~~current that raises the person; wherein,~~

~~—the machine (6) for producing mechanical work is a variable pitch propeller, which is driven by an electric motor;~~

~~[[-]] an inverter [[is]] connected between the electric motor of the variable pitch propeller (6) and the electric energy supply source, said inverter being used~~ configured to vary ~~the a~~ frequency of ~~the~~ electric current supplied to the electric motor ~~of the variable pitch propeller(6); and~~

[[-]] a balance (7) for determining a ~~is provided,~~
~~which exactly determines the weight of a person to be raised over~~
~~the flight position by the air jet discharged from the delivery~~
~~outlet participating to the game, and the balance~~ electronically
~~generates~~ generating an electric signal proportional to the
determined ~~this~~ weight, said electric signal connected to control
~~being used to control~~ the inverter to modify the frequency of the
electric ~~motor input~~ current supplied to the electric motor,
thereby reaching ~~the~~ a maximum number of rpm of the variable
pitch propeller (6) ~~for this particular~~ the determined weight of
the person, corresponding to an a suitable air jet current suited
to raise ~~this~~ the person up to a maximum pre-set height.

2. (currently amended) A structure according to claim
1, further comprising:

an electronic regulation system connected to adjust
blade inclination of the variable pitch propeller (6), and

wherein said electric signal is ~~also used~~ further
connected to the electronic regulation system to vary the pitch
of the variable pitch propeller (6), ~~in order to be able to~~ and
thereby modify ~~the~~ an air flow rate by the concurrent action of
the inverter and of [[an]] the electronic regulation system ~~used~~
~~to adjust~~ adjusting the blade inclination of the variable pitch
propeller (6).

3. (currently amended) A structure according to claim 2, wherein the value of said maximum preset height is ~~comprised~~ in the interval 2.5-3 meters ~~metres~~.

4. (currently amended) A structure according to claim 1, wherein ~~each~~ the balance (7) comprises a central unit forming a connector, the ~~latter~~ connector being connected to an alphanumeric display located inside a control room (14).

5. (currently amended) A structure according to claim 4, further comprising:

sensors connected to the inverter, and

a decoder associated with the electric motor,

wherein the sensors detect ~~the~~ air flow velocity, and in the event of an excessive deviation of ~~the~~ an effective value from one of a the nominal air velocity value and a ~~, or~~ desired [[,]] air velocity value, ~~they~~ the sensors cause, through the inverter, a controlled slowing down of ~~the~~ propeller (6) angular velocity, by the adjustment of the frequency of the electric ~~motor input~~ current supplied to the electric motor, [[;]] said nominal air velocity value being ~~for instance the value that can be~~ determined based on the electric signal provided by the balance (7).

6. (currently amended) A structure according to claim 1, ~~wherein there are provided~~ further comprising:

means for storing ~~the~~ component usage time of ~~the~~ ~~various mechanical, electronic and electromechanical components of the structure,~~ and for storing the statistical information concerning ~~their~~ component failures ~~or possible~~ and potential component operation anomalies.

7. (currently amended) A structure according to claim 1, further comprising:

~~wherein the various flight positions (3; 5) include injury preventing means(5) , which surround~~ surrounding the one of the elastic membrane and net ~~membranes or nets (3) that are permeable to air, and which are for instance formed by pillows of polyurethane or pillows that automatically deflate in the event of impact by a person.~~

8. (currently amended) A structure according to claim 1, comprising:

plural of said flight position, wherein the plural ~~various~~ flight positions (3; 5) are distanced from each other to a sufficient degree to exclude contacts among persons at each flight position ~~the participants in the game; and~~

~~the structure comprising also~~
spectators stands (13) with rigid or defolmable
parapets, ~~which in the former case are sufficiently~~ distanced
from the flight positions to prevent impacts by the persons at
each flight position participants, ~~even in the event of their~~
~~fall.~~

9. (currently amended) A structure according to claim
1, wherein the structure ~~is made of several~~ comprises plural
modules, each ~~of which includes various~~ module comprising plural
flight positions (3; 5) and respective jet generating devices
(1), each module including:

- N flight positions (1; 3; 5);
- N balances (7), each balance associated with a
corresponding one of the N flight positions ~~so that each~~
~~participant will have one respective balance (7) at his disposal,~~
~~in order to speed up the weighing procedure; and~~
- ~~a number of 2 x N boxes (12 ; 12'), which is twice~~
~~the number of flight positions (3; 5).~~

10. (currently amended) A structure according to claim
9, wherein each module further comprises:

- ~~its own stands (13), which also serve as separation means between the various modules~~ a stand separating one module from another module;

- a respective control room (14), with an alphanumeric display ~~used~~ for monitoring the operation of the module and for ~~the~~ surveillance of the ~~participants for this particular module,~~ ~~in order to be able to reduce for instance the air flow rate at a certain flight position, using said regulation system, if it seems that a person feels ill or is seized by panic;~~

- a cash desk (10), ~~for getting an~~ with an entry ticket dispenser; and

- an enveloping screen (11) ~~used~~ for projections in three dimensions (3D).

11. (currently amended) A structure according to claim 1, further comprising an underground basin made of reinforced concrete, ~~wherein part of this structure, and in particular wherein the jet generating device devices (1) used to generate the vertical air currents, is received inside a~~ the basin ~~made of reinforced concrete, which is laid underground, that is, which is located below the level of the surrounding soil.~~

12. (currently amended) A structure according to claim 1, wherein the flight position, the jet generating device, the

support structure, the inverter, and the balance are disassembly
from each other ~~this structure is easily disassembled and forms~~
~~a structure for travelling shows or performances.~~

13. (currently amended) A structure according to claim
1, ~~characterised in that: in order to minimise stresses on the~~
wherein,

the electric motor comprises a drive shaft, and a joint
connects the drive shaft to the variable pitch propeller, and

~~joints connecting the drive shaft of each motor to the~~
~~respective variable pitch propeller(6), the said motors are never~~
~~stopped in the time intervals between the various game turns, but~~
~~are rotated instead~~

during operation, between operations of raising
different persons at the flight position, the motor remain in
rotation at a minimum predefined rpm, ~~say N_{min} , by pre setting in~~
~~a corresponding manner, through the inverter, the frequency of~~
~~the current supplied to the motor.~~

14. (currently amended) A structure according to claim
1, wherein,

~~at the beginning of each game turn, after a~~
~~personhas"leaned"upon the vertical air flow of a flight position~~

~~(3;5), the air flow rate and consequently the air velocity in each flight position (3; 5)~~

during initial operation, an air velocity of the generated vertical air jet is progressively increased until the person participant has reached a maximum flight height, ~~which is preferably comprised between 2.5 and 3 meters; this operation~~

the progressive increase in the air velocity being performed by gradually increasing the rpm of the propeller (6), starting from a minimum predefined rpm N_{min} , by simultaneously varying the propeller pitch (6) and the frequency of the current through the inverter; wherein, moreover, said maximum flight height is determined by processing the electric signal provided by said balance (7).

15. (currently amended) A structure according to claim 1, wherein, during final operation, ~~at the end of each game turn~~ the inverter progressively reduces the rpm of the motor to a minimum predefined rpm N_{min} ~~the rpm of the motor~~ by varying the frequency of the ~~motor supply~~ electric current supplied to the motor, ~~thereby gradually returning the participant in a completely safe manner to the trampling level of the flight position(3 ; 5).~~